



HAWAII STATE HEALTH PLANNING AND DEVELOPMENT AGENCY

ADMINISTRATIVE APPLICATION – CERTIFICATE OF NEED PROGRAM

Application Number 03-35A

Applicant: Castle Medical Center
640 Ulukahiki St., Kailua, HI
Phone: 808-263-5500

Project Title: Establishment of a stationary Magnetic Resonance Imaging
(MRI) service

Project Address: 640 Ulukahiki St., Kailua, HI

1. **TYPE OR ORGANIZATION:** (Please check all applicable)

- Public _____
- Private X
- Non-profit X
- For-profit _____
- Individual _____
- Corporation X
- Partnership _____
- Limited Liability Corporation (LLC) _____
- Limited Liability Partnership (LLP) _____
- Other: _____

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2. **PROJECT LOCATION INFORMATION:**

A. Primary Service Area(s) of Project: (Please check all applicable)

- Statewide: _____
- O`ahu-wide: X
- Honolulu: _____
- Windward O`ahu: X
- West O`ahu: _____
- Maui County: _____
- Kaua`i County: _____
- Hawai`i County: _____

3. **DOCUMENTATION** (Please attach the following to your application form):

A. Site Control documentation (e.g. lease/purchase agreement, DROA agreement, letter of intent)

The designated area is located on the Castle Medical Center campus and is owned by Castle Medical Center. There is no site control documentation.

B. A listing of all other permits or approvals from other government bodies (federal, state, county) that will be required before this proposal can be implemented (such as building permit, land use permit, etc.)

A Department of Planning and Permitting PRU building permit will be required for the mobile trailer that will house the MRI unit.

C. Your governing body: list by names, titles and address/phone numbers

Year 2003 list included – see Attachment

D. If you have filed a Certificate of Need Application this current calendar year, you may skip the four items listed below. All others, please provide the following:

- Articles of Incorporation
- By-Laws
- Partnership Agreements
- Tax Key Number (project's location)

Documents on file and unchanged – see CON # 03 – 16A.

4. **TYPE OF PROJECT.** This section helps our reviewers understand what type of project you are proposing. Please place an "x" in the appropriate box.

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	Used Medical Equipment (over \$400,000)	New/Upgraded Medical Equip. (over \$1 million)	Other Capital Project (over \$4 million)	Change in ownership	Change in service/ establish new service/facility	Change in Beds
Inpatient Facility		X			X	
Outpatient Facility						
Private Practice						

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5. **TOTAL CAPITAL COST:** \$1,600,000

6. **BED CHANGES.** Please complete this chart only if your project deals with a change in your bed count and/or licensed types. Again, this chart is intended to help our reviewers understand at a glance what your project would like to accomplish. Under the heading "Type of Bed," please use only the categories listed in the certificate of need rules.

Type of Bed	Current Bed Total	Proposed Beds for your Project	Total Combined Beds if your Project is Approved
TOTAL			

7. **CHANGE IN SERVICE.** If you are proposing a change in service, then please briefly list what services will be added/modified. Be sure to include the establishment of a new service or the addition of a new location of an existing service. Please consult Certificate of Need Rules Section 11-186-5 for the categories of services. If you are unable to determine which category best describes your project, please consult with agency staff.

Install and operate a full-time stationary MRI unit housed in a trailer as an upgrade to replace Castle's current part-time mobile MRI service provided by Heavenly Images, Inc.

8. PROJECT COSTS AND SOURCES OF FUNDS (For Capital Items Only)

A. List All Project Costs:

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AMOUNT:

- | | | |
|----|--|--------------------|
| 1. | Land Acquisition | _____ |
| 2. | Construction Contract | _____ |
| 3. | Fixed Equipment | <u>\$1,250,000</u> |
| 4. | Movable Equipment | _____ |
| 5. | Financing Costs | _____ |
| 6. | Fair Market Value of assets acquired by
lease, rent, donation, etc. | _____ |
| 7. | Other: <u>Trailer and Miscellaneous Expenses</u> | <u>\$350,000</u> |

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TOTAL PROJECT COST:

\$1,600,000

B. Source and Method of Estimation

Describe how the cost estimates in Item "A" were made, including information and methods used:

See attached price quote provided by Philips Medical Systems.

C. Source of Funds

AMOUNT:

- | | | |
|----|----------------------|--------------------|
| 1. | Cash | <u>\$1,600,000</u> |
| 2. | State Appropriations | _____ |
| 3. | Other Grants | _____ |
| 4. | Fund Drive | _____ |
| 5. | Debt | _____ |
| 6. | Other: _____ | _____ |

TOTAL SOURCE OF FUNDS:

\$1,600,000

9. IMPLEMENTATION SCHEDULE: Please present a projected time schedule for the completion of this project from start to finish. Include all of the following items that are applicable to your project:

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a) Date of site control for proposed project.

The site designated for the MRI trailer exists on the campus of Castle Medical Center.

b) Dates by which other government approvals/permits will be applied for and received.

A Department of Planning and Permitting PRU building permit will be applied for after the State Health Planning and Development Administration grants a Certificate of Need for the proposed MRI unit. If the Certificate of Need is granted by November 2003, the PRU permit will be applied for and received in November or December of 2003.

c) Dates which financing is assured for the project.

Financing was obtained in March 2003.

d) Date construction will commence.

Not applicable.

e) Length of construction period.

Not applicable.

f) Date of completion of the project.

April 2004.

g) Date of commencement of operation.

April 2004.

Please remember that the Agency does monitor the implementation of Certificates approved. Non-implementation of a project as described in your application may result in a fine and/or withdrawal of the Certificate of Need.

10. **EXECUTIVE SUMMARY:** Please present a brief summary of your project. In addition, provide a description of how your project meets each of the Certificate of Need criteria listed below. If a new location is proposed, please attach an easy to read map that shows your project site.

- a) Relationship to the Hawai'i Health Performance Plan (H2P2), also known as the State of Hawai'i Health Services and Facilities Plan
- b) Need and Accessibility
- c) Quality of Service/Care
- d) Cost and Finances (include revenue/cost projections for the first and third year of operation)
- e) Relationship to the Existing Health Care System
- f) Availability of Resources

Project Description

Castle Medical Center (Castle) proposes to install a stationary Magnetic Resonance Imaging (MRI) unit at its main medical campus located at 640 Ulukahiki Street, Kailua, Hawaii. As the only major medical facility in Windward Oahu, a stationary MRI unit will allow Castle to meet the increasing demand for MRI services in its community. Currently, Castle has access to mobile MRI services two days per week provided by the company Heavenly Images, Inc. The mobile MRI unit is shared and jointly operated by Castle, St. Francis West Hospital and Wahiawa General Hospital. The proposed stationary MRI unit will allow Castle to exclusively operate its own MRI unit and provide MRI services to patients twenty-four hours a day, seven days a week. This upgraded service will greatly enhance Castle's ability to provide quality health care to all residents and patients of Windward Oahu. The proposed stationary MRI unit will be located in a trailer parked at an existing trailer pad adjacent to Castle's main administrative building.

A. Relationship to the Hawaii Health Performance Plan (H2P2), also known as the State of Hawaii Health Services and Facilities Plan.

The Hawaii Health Performance Plan (H2P2) goals include: increasing "the span of a healthy life for Hawaii residents," reducing "health disparities among Hawaii residents," and achieving "equitable and effective access at a reasonable cost for all Hawaii residents to health services that are responsible to the holistic needs of community's members." The MRI unit proposed in this Application will provide numerous benefits to Hawaii residents consistent with these goals. Generally, MRI reduces the need for other less appropriate tests and procedures (including invasive procedures), and/or the need for multiple tests and procedures. These other tests and procedures are often more costly and uncomfortable for the patient with resulting diagnoses less accurate than by MRI. Therefore, the proposed MRI will serve the Hawaii health care vision of achieving "optimum health."

MRI is a widely accepted diagnostic tool that provides physicians with viable options in diagnosing and treating patients for serious ailments. For example, MRI is the diagnostic study of choice in elderly patients with hip fractures who are osteoporotic and

low back pain, screening for cerebral aneurysms, stress fractures and dementia. Furthermore, MRI is a valuable diagnostic tool in the early diagnosis of breast cancer and heart disease. Thus, the proposed MRI unit will serve to “increase the healthy life span of Hawaii residents” by providing “early detection and diagnosis of treatable diseases,” reducing “morbidity and pain through timely and appropriated treatment,” and reducing “the effects of chronic disease.”

Castle currently shares a mobile MRI unit with St. Francis-West Hospital and Wahiawa General Hospital. MRI services are offered two days a week at Castle. Needless to say, the unit is heavily burdened through its servicing of three hospitals. Because the unit is shared, Castle patients often have to wait for the MRI service to be available. The waiting period potentially raises the cost of health care because patients are not diagnosed or treated as early as possible. Such delay in diagnosis may result in the patient’s condition becoming more serious and requiring even more costly treatment. An additional MRI facility at Castle will decrease the time for diagnosis and treatment by increasing availability of and accessibility to state-of-the-art MRI technology at all three hospitals. Potentially, this can increase the span of a healthy life, improve quality of life, and positively affect clinical outcomes. Ultimately, this will result in fewer high-cost treatment cases for the communities serviced by the mobile MRI unit and Castle’s new MRI unit. In addition to Castle’s service area benefiting from the additional MRI unit, St. Francis-West and Wahiawa patients will benefit by having greater access to MRI technology as the mobile MRI unit will only be shared by two, instead of three, hospitals. This will serve to enhance the cost-effectiveness of the Oahu regional health care system, by lessening the burden placed on patients and hospitals who currently only have access to one mobile MRI unit a few days per week.

The proposed MRI unit will allow Windward Oahu residents to have access to quality health care twenty-four hours a day, seven days a week. Residents will no longer have to travel into Honolulu, or wait for the mobile MRI unit to undergo treatment. Ultimately, a permanent MRI unit will allow Castle to achieve its goals to maintain its high quality of care, improve the continuity of care, decrease the length of stays, and minimize travel time for patients and residents of Windward Oahu.

Chapter III of H2P2 provides that the recommended regional priorities for modifying the health care delivery system in Windward Oahu include the diagnosis and treatment of malignant neoplasms and heart conditions. With regard to malignant neoplasms, MRI has the ability to differentiate between soft tissue and bony matter, and will thus assist with the detection of a variety of cancers. MRI services will also be used during the cancer treatment phase to detect changes in the cancer as treatment progresses. MRI may also allow for earlier detection of malignant neoplasms over other diagnostic procedures, thus producing more timely treatment and providing for a better outcome. With regard to cardiovascular diseases, MRI will be used for vascular and cardiac imaging, which can assist in the detection and prevention of cardiac conditions. For example, MRIs may be used to assist with the detection of blocked vessels that could lead to heart attacks and stroke. Therefore, an additional MRI unit at Castle would fill critical needs for Windward Oahu.

Chapters IV through XI of H2P2 discuss various diseases and conditions, including infectious diseases; cancer, diabetes and other chronic disabling conditions; heart disease and stroke; preventable injuries and violence; dental (oral) health; maternal, infant and child health; and behavioral health. MRI has been acknowledged as an extremely effective tool in diagnosing and treating these diseases and conditions. Specifically, MRI is a preferred imaging modality because of its superior contrast differentiation between muscle, fat, vessels, tendons, ligaments, cartilage, cortical bone and marrow bone space. Additionally, MRI is able to provide orthopedic, neurological, vascular, cardiac, neck, spine, upper extremity, and lower extremity images. While MRI services will not directly impact all of the various diseases and conditions listed in H2P2, it will have a considerable impact on many of them and will at least have an indirect positive impact on all of them. Generally, the areas that MRI services will provide the most significant impact include cancer, diabetes, heart disease, stroke, dental (oral) health, preventable injuries, and injuries resulting from violence.

H2P2 requires that a new MRI unit have a minimum utilization of 1,500 scans by the third year of operations. Castle reasonably estimates that it will perform at least 8 procedures per day, 5 days per week in its first year of operations. This amounts to 2,080 procedures. Therefore, the proposed MRI unit will exceed the minimum threshold required by H2P2 in its first year of operations. Furthermore, the current mobile MRI unit will continue to exceed the minimum threshold since the combined number of MRI procedures performed at St. Francis and Wahiawa has been well in excess of the minimum threshold since 1999.

H2P2 states that the basic principles of a health care delivery system include a system that is comprehensive, cost-effective, well-coordinated and responsive to community/regional needs. Based on the foregoing, the addition of the proposed MRI system will make the health care delivery system on Oahu more comprehensive, cost-effective, well-coordinated and responsive to community/regional needs.

B. Need and Accessibility

The service area of the proposed project will be, generally, the island of Oahu and specifically Windward Oahu. Patients throughout Windward Oahu will be able to access and utilize MRI services as proposed here.

In 2002, the population of Oahu was 896,019. Between 1990 and 2000, the population of Oahu grew from 836,231 to 876,156. (See Hawaii Data Book Table 1.06, Resident Population by Counties: 1980 to 2002.) By the year 2010, it is expected to be 929,200. (See Hawaii Data Book, Table 1.24 – Resident Population Projections by Counties: 1998 to 2025.) In 2000, the median age on Oahu was 35.7, and the population consisted primarily of Asians, Pacific Islanders and Caucasians. (See Hawaii Data Book, Tables 1.27 and 1.29– Resident Population by Age and Sex by Counties: 2000 and Resident Population by Race and Hispanic Origin by Counties: 2000.)

The City and County of Honolulu comprises high-density urban, low-density urban, suburban and rural regions. The economy is based on tourism, government employment, small business, and agriculture. In 2000, unemployment on Oahu was estimated at 3.7%. A profile of selected social characteristics of the City and County of Honolulu for 2000 can be found in Table DP-2 of the U.S. Bureau of the Census, Census 2000.

Table B1 sets forth the number of MRI procedures performed by the ten MRI units on Oahu between 1998 and 2002.

Table B1

	1998	1999	2000	2001	2002
Castle Medical Center	765	834	915	1,077	1,367
% increase over prior year	**	9.0	9.7	17.7	26.9
Kaiser	4,302	4,969	5,679	5,932	7,406
% increase over prior year	**	15.5	14.2	4.5	24.8
Kapiolani	1,187	1,640	1,963	2,583	1,953
% increase over prior year	**	38.2	19.7	31.6	-24.3
Kuakini	5,435	4,668	6,121	7,200	7,335
% increase over prior year	**	-14.1	31.1	17.6	1.9
Pali Momi	**	**	**	**	4257
% increase over prior year					
Queen's	8,391	9,675	8,834	11,245	11,063
% increase over prior year	**	15.3	-8.6	27.3	-1.6
St. Francis-Liliha	932	3,324	4,937	5,634	5,464
% increase over prior year	**	256.7	48.5	14.1	-3.0
St. Francis- West	1,275	1,200	1,503	1,858	1,852
% increase over prior year	**	-5.8	25.3	23.6	-0.3
Straub Hospital	2,906	3,330	3,369	4,069	5,238
% increase over prior year	**	14.6	1.2	20.8	28.7
Wahiawa General Hospital	**	408	700	707	746
% increase over prior year	**	**	71.6	1.0	5.5

Sources: SHPDA Utilization Reports from 1998 - 2002 and Population and Economic Projections for the State of Hawaii to 2025, DBEDT; **Not applicable.

In 2002, there were 46,681 MRI procedures performed on Oahu: 1,367 at Castle; 7,406 at Kaiser; 1,953 at Kapiolani; 7,335 at Kuakini; 4,257 at Pali Momi; 11,063 at Queen's (3 MRI units); 5,464 at St. Francis-Liliha; 1,852 at St. Francis-West; 5,238 at Straub Hospital; and 746 at Wahiawa General Hospital. MRI services at Kaiser, Kapiolani, Kuakini, Pali Momi, Queen's, St. Francis-Liliha, St. Francis-West, and Straub are all well

in excess of the H2P2 minimum threshold (1,500 procedures). The MRI unit used by Castle is shared with Wahiawa and St. Francis-West. Combined, this unit performed 3,965 procedures in 2002. It is already operating at approximately 2.6 times the minimum threshold, and it is reasonable to assume that the demand for MRI procedures at Castle, as well as at St. Francis-West and Wahiawa, will increase in future years. As such, the mobile MRI unit would reach its maximum capacity in the near future if its current sharing arrangement continues. Given this, there is a strong need for additional MRI availability.

Table B2 shows a steady increase in both the number of procedures performed on Oahu and the number of procedures performed in proportion with the growing population of Oahu between 1998 and 2002.

Table B2

Oahu	1998	1999	2000	2001	2002
Procedures	25,193	30,048	34,021	40,305	46,682
% increase over prior year	**	19.3	13.2	18.5	15.8
Population	886,909	878,906	875,670	881,295	896,019
Procedures per 1,000 persons	28.4	34.2	38.8	45.7	52.1
% increase over prior year	**	20.4	13.5	17.8	14.0

Sources: SHPDA Utilization Reports from 1998 - 2002 and Population and Economic Projections for the State of Hawaii to 2025, DBEDT; **Not applicable.

The estimated annual increase in the number of procedures performed per 1,000 persons between 1998 and 2002 was 16.4%.

According to the State of Hawaii Data Book 2001, the population of Oahu is expected to be approximately 929,200 by 2010. According to the latest population estimates, the current population of Oahu is approximately 896,000. This suggests an estimated annual population growth of .455% between 2002 and 2010.

Table B3 outlines the projected increase in MRI procedures on Oahu performed by the year 2007, based on the average growth in number of procedures performed from 1998 to 2002 and the approximate population growth rate.

Table B3

	Estimated Procedures per 1,000 Persons	Population (in 1,000s)	Estimated Number of MRI Procedures
2002	52.1	896.0	46,682
2003	60.6	900.1	54,546
2004	70.5	904.2	63,746
2005	82.1	908.3	74,571
2006	95.6	912.4	87,225
2007	111.3	916.6	101,991

In 2002, there were approximately 52 MRI procedures performed on Oahu for every 1,000 persons. (See Table B-3). Moreover, the number of MRI procedures per 1,000 persons has increased each year and is estimated to continue growing each year by approximately 16.4%.

Given this and the current demand and waiting period for MRI procedures already experienced at Castle, Castle reasonably estimates that it will perform at least 8 MRI procedures per day, 5 days per week in its first year of operations. This amounts to 2,080 MRI procedures in year 1. Given the past average annual growth in MRI procedures on Oahu (16.7%) and at Castle (15.8%), Castle also reasonably estimates that the number of MRI procedures performed at Castle over the next few years will increase by at least 10% annually. This amounts to 2,288 procedures in year 2 and 2,517 in year 3.

In addition, the current mobile MRI unit will not be underutilized by servicing only St. Francis-West Hospital and Wahiawa General Hospital. The combined number of MRI procedures for these two hospitals has been exceeding the minimum threshold since 1999. In 2002, the combined number of MRI procedures was already at 2,598, and this number should continue to grow. Between 1998 and 2002, the number of MRI procedures performed at St. Francis-West increased by an average of 10.7% annually. Based on this prior history, the projected number of MRI procedures that will be performed at St. Francis-West will be 2,050 in 2003, 2,269 in 2004 and 2,512 in 2005. Between 1998 and 2002, the number of MRI procedures performed at Wahiawa increased by an average of 26.3% annually. Based on this prior history, the projected number of MRI procedures that will be performed at Wahiawa will be 942 in 2003, 1,190 in 2004, and 1,503 in 2005.

Based on the above projections, if Castle continues to share the mobile MRI unit with St. Francis-West and Wahiawa, patients in need of MRI services would be severely hindered since the unit is only available in each service area two days each week.

The services will be accessible to all patients who need MRI services. Services will be provided without discrimination based on race, ethnicity, income, religion, gender or any other category. This added service will allow Castle to more effectively serve the residents in Windward Oahu, who otherwise might have to travel into Honolulu or West Oahu to receive timely treatment.

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C. Quality of Service/Care

Castle has provided Windward Oahu residents with quality health care since 1963. It is a full-service medical center, offering a wide range of inpatient, outpatient and home-based services. Each year, Castle provides care for 6,000 inpatients, 42,000 outpatients, and 16,000 emergency patients. While Castle serves all of Oahu, it is the primary health care facility for Windward Oahu.

The MRI service will operate in the tradition of Castle's mission to provide the highest quality of care. The certified and experienced staff will work alongside Castle's board certified radiologists to ensure that Castle provides high quality diagnostic services. Castle will comply with State and Federal regulations for delivery of care, maintenance of service equipment, and maintenance of clinical environment. Castle is accredited by the Joint Commission of Accredited Healthcare Organizations, licensed by the State of Hawaii Department of Health, and is in good standing with the Medicaid and Medicare healthcare programs. In addition, Castle's radiology group is accredited by the American College of Radiology, the Society of Nuclear Medicine, the Radiologic Society of North America, American Medical Association, Hawaii Radiological Society, and the Hawaii Medical Association.

Castle provides patient care through well-defined processes for caregivers. Castle conducts regular performance reviews of employees which, among other things, are used to identify strengths, identify areas for improvement, document professional performance, and gather data as a guide for such actions as wage increases, promotions, disciplinary action and reassignment. The performance review "rates" employees on the basis of their performance and length of time in the position in relation to the performance requirements of that position.

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Castle staff for the proposed MRI service will be as follows:

Radiologist	1 FTE
Receptionist/Clerk	1 FTE
Technologist	3 FTE

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All radiologists will be licensed in the State of Hawaii and certified by the American Board of Radiology. Technologists will be certified radiologic technologists licensed in the State of Hawaii with additional training in MRI.

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To maintain competence and quality, technologists will be required to attend seminars and in-service educational programs specific to MRI technology. Radiologists and technologist will be expected to meet or exceed all state and national registry requirements for continuing medical education (CME). Currently, radiologists are required to obtain 50 CME credits annually, of which a portion must include MRI credits for the American College of Radiology (ACR) certification, and technologists are required to obtain 12 CME credits annually.

Castle will adhere to the guidelines as promulgated in the ACR standards. Castle will seek ACR Accreditation for the MRI unit after installation.

D. Cost & Finances

Please see attached *MRI Purchase Projections*.

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E. Relationship to the Existing Health Care System

Castle is currently anchor healthcare facility for the Windward communities. The proposed MRI unit will enhance Castle's diagnostic services by allowing Castle patients access to a valuable diagnostic tool twenty-four hours a day, seven days a week. This proposal will allow Castle to provide MRI services to patients who might otherwise have to travel to Honolulu or wait for the mobile MRI unit to be available. Such delays can add to the cost of health care and disrupt the continuity of care for these patients. The proposed MRI unit will expedite treatment and recovery by allowing Windward patients an alternative to seeking treatment in Honolulu.

F. Availability of Resources

The proposed MRI unit will be funded with cash Castle has set aside for this project. There will be no debt financing. In addition, based on Castle's revenue projections, the proposed project will have an estimated net income in its first year of operation. Therefore, additional operating subsidy is not anticipated to be required.

The MRI department will be managed and operated by the Director of Imaging Services at Castle. The proposed MRI service will require a total of 5 FTE staff. Castle's Radiology Department will provide 1 Radiologist from its current staff. In addition,

Castle will recruit 3 FTE technologists with an annual cost of \$165,000. Finally, Castle will recruit 1 FTE receptionist with an annual cost of \$31,000.

Castle has an active recruiting program and has successfully recruited, hired and retained technologists and receptionists. Castle is confident that it can recruit the technologists and a receptionist as needed to operate the proposed MRI unit.

11. Eligibility to file for Administrative Review. This project is eligible to file for Administrative review because: (Check all applicable)

It involves bed changes, which will have a capital expense of \$1,000,000 or less, and which will have an increased annual operating expense of less than \$500,000.

It involves service changes which will have a capital expense of \$1,000,000 or less, and which will have an increased annual operating expense of less than \$500,000.

It is an acquisition of a health care facility or service, which will result in lower annual operating expenses for that facility, or service.

It is a change of ownership, where the change is from one entity to another substantially related entity.

It is an additional location of an existing service or facility.

The applicant believes it will not have a significant impact on the health care system.

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DEPARTMENT OF HEALTH CARE SERVICES

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Pages 15, 16 and 17 were excluded.